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PCT/EP2003/008016

PATENT COOPERATION TREATY

PCT

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 772-1008 er/ho	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/008016	International filing date (day/month/year) 23 July 2003 (23.07.2003)	Priority date (day/month/year) 30 July 2002 (30.07.2002)
International Patent Classification (IPC) or national classification and IPC B23P 21/00		
Applicant KUKA SCHWEISSANLAGEN GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 12 December 2003 (12.12.2003)	Date of completion of this report 13 September 2004 (13.09.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International Application No.

PCT/EP2003/008016

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages 2-14, as originally filed
pages _____, filed with the demand
pages 1,1a,1b, filed with the letter of 07 July 2004 (07.07.2004)
- ☒ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages 1-14, filed with the letter of 07 July 2004 (07.07.2004)
- ☒ the drawings:
pages 1/2-2/2, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-14	YES
	Claims		NO
Inventive step (IS)	Claims	1-14	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

2. Citations and explanations

This report makes reference to the following documents:

D1: FR-A-2 712 833 (RENAULT AUTOMATION) 2 June 1995
D2: DE 197 13 860 A (KUKA SCHWEISSANLAGEN GMBH) 8
October 1998

The subject matter of claim 1 is novel within the meaning of PCT Article 33(2) because none of the cited documents describes a machining system in which the rotating station has at least two adjacent, multiaxially movable rotating units with gripping devices and work areas that intersect at the work points, one of the work points being in the form of a workpiece receptacle and the other work point being in the form of a jointing area, and at least one robot with a jointing tool being provided at the jointing area for carrying out jointing operations.

D1 is regarded as the closest prior art in relation to the subject matter of claim 1. D1 discloses (the references in parentheses are to D1):

a machining system for machining workpieces, in particular vehicle body components (abstract), having one or more machining stations with robots (figure 1 (M)) and at least

one rotating station (figure 1 (4)) that has at least two work points (figure 1 (25, 27, 28)) for simultaneously carrying out different operations.

Thus the subject matter of claim 1 differs from the known machining system in that the rotating station has at least two adjacent, multiaxially movable rotating units with gripping devices and work areas which intersect at the work points, one of the work points being in the form of a workpiece receptacle and the other work point being in the form of a jointing area, and at least one robot with a jointing tool being provided at the jointing area for carrying out jointing operations.

The problem to be solved by the present invention can therefore be regarded as that of increasing the operational safety and flexibility of the machining system.

The solution to this problem as proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)) because the combination of features contained in independent claim 1 is neither known nor obvious from the available prior art.

D2 discloses a different machining system for vehicle body components, said system consisting of a plurality of machining stations lined up along a transfer line.

Although these stations are equipped with robots with jointing tools and the machining system is equipped with transport robots between the machining stations, D2 does not disclose a rotating station. In particular, D2 does not indicate that the rotating station has at least two adjacent, multiaxially movable rotating units with gripping devices and work areas which intersect at the work points, one of the work points being in the form of a

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workpiece receptacle and the other work point being in the form of a jointing area.

Claims 2 to 14 are dependent on claim 1 and therefore also meet the PCT requirements with regard to novelty and inventive step.